

## RECENT DEVELOPMENTS IN MICROSCALE COMBUSTION CALORIMETRY

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Efforts continue in the FAA Fire Research Laboratory to extract more information from the Microscale Combustion Calorimeter (MCC). Modifications to the test method as well as hardware substitutions and additions have been made. This enabled better quality results and provided more insight into combustion processes from the milligram-scale test. Some of the recent developments resulted in improved accuracy and precision of routine testing. Other advances, for research purposes, helped in better understanding combustion processes and the products generated under varying experimental conditions. Underscored developments for discussion include, but are not limited to:

- Revisions to ASTM D7309 standard test method
- Baseline correction method improvements
- Heat release rate calculation changes
- High temperature combustor experiments
- Hyphenated MCC techniques using CO/CO<sub>2</sub> analyzers & FTIR
- Controlled fuel:oxygen ratio experiments
- Gravimetric soot measurements